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Blue force tracking upgrades offer greater situational awareness

By Nancy Jones-Bonbrest

On the battlefield, situational awareness not only provides a technological advantage to Soldiers, it saves lives. Now, the Army is delivering that awareness to the lowest levels.

"If you're in contact with the enemy and you're trying to figure out how to maneuver, being able to identify where your Soldiers are down to the individual is incredible," said COL Thomas Dorame, commander 2nd Brigade, 1st Armored Division. "You think about different situations that American Soldiers found themselves in – Somalia, downtown Baghdad, those complex environments – and as a squad leader, to have that situational awareness you're able to better support your Soldiers."

After more than a decade of war, the friendly force tracking system Soldiers relied on for situational awareness, Force XXI Battle Command Brigade-and-Below/Blue Force Tracking is being upgraded and enhanced through two generational steps: Joint Capabilities Release followed by Joint Battle Command-Platform. Both work with networked handheld devices to bring dismounted Soldiers into the situational awareness picture.

Prior to and as part of Capability Set 13, JCR is being fielded to Afghanistan. The system allows Soldiers in battle to view blue icons on a computer screen inside their vehicle that pinpoint the grid locations of friendly forces. They can also alert nearby friendly units of improvised explosive devices or enemy locations by plotting them in red.

The capability is comprised of computers, global positioning equipment and communication systems that work in tandem to provide near real-time information to combat leaders at the tactical level. The information it provides also mitigates fratricide. With the FBCB2 capability, Soldiers can move more freely on the battlefield knowing the whereabouts of friendly or enemy forces.

Fielded by Project Manager Joint Battle Command-Platform, the technology is being upgraded based largely on Soldier experience and feedback. While JCR is being fielded to troops in Afghanistan through CS 13, JBC-P, which will bring enhanced on-the-move command and control capabilities down to the dismounted Soldier, is already being tested and is planned for fielding as part of CS 14.

"We're continuously improving the friendly force tracking system in order to equip our Soldiers with the most advanced tactical communications and situational awareness available," said COL Michael Thurston, project manager for JBC-P. "The upgrades will make it more intuitive for today's Soldiers and leaders."

Among the upgrades JCR brings is JCR-Logistics, which integrates FBCB2/BFT capability with Movement Tracking System for Army logisticians. The JCR-Log provides the technology necessary to communicate with and track tactical wheeled vehicles and cargo in near real time. It provides the same situational awareness, command and control messaging and fratricide avoidance found in FBCB2 today, enabling the safe and timely completion of distribution missions in support of full spectrum operations.

JCR includes access to the type one secret network through the KGV-72 encryption device, incorporates a new chat function and instant messaging capabilities, and has a powerful new map engine to allow Soldiers to render images. JCR will utilize the BFT 2 network, a new satellite infrastructure that can handle significantly more data, allowing for more frequent and larger messaging traffic.

The fieldings to Afghanistan required PM JBC-P to integrate JCR/BFT 2 onto Mine Resistant, Ambush Protected vehicles.

Several weeks prior to the JCR fielding that began in October, a group of field support representatives from PM JBC-P visited Space and Na

val Warfare Systems Center Atlantic in Charleston, S.C., where network systems, including JCR/BFT 2, are being incorporated onto the CS 13 vehicles. The team wanted to study SPAWAR strategies for integrating JCR/BFT 2 onto MRAPs.

"We were there to learn – take some pictures, get some experience, so we could go back and train our workforce that departed for Afghanistan to be able to perform these upgrades under combat conditions," said Thane C. St. Clair, who is overseeing the upgrade for PM JBC-P. "That's a very complex vehicle, so (by gaining expertise), we can basically make a how-to guide for our installers, just like we have for other vehicles, so we can install in Afghanistan in a disciplined manner."

JCR provides a "bridge" to the subsequent JBC-P system, which will enhance the digital, on-the-move capabilities at both the vehicle and dismounted Soldier level, delivering a new level of mission command and situational awareness to small units.

The upgrade to JBC-P includes a new user interface, with intuitive features like touch-to-zoom maps and drag-and-drop icons. It also integrates the functionality of the Tactical Ground Reporting, a multimedia reporting system for troops on patrol, allowing small unit Soldiers to digitally capture, report and retrieve patrol data such as "SPOT" reports.

PM JBC-P tested its next generation capability at the recent Network Integration Evaluation 13.1.

SPC James Martagon of the 2/1 AD, who used JBC-P at the NIE 13.1, said the system's new user interface made it easier to access and use the icons, tools and applications needed to communicate.

"It categorizes everything better," he said. "There's a lot more to choose from."

To send a "SPOT" report on an Improvised Explosive Device discovery, for example, he selected an icon from the menu and dragged it to the IED's location on the map, sending a message that alerted other users to the danger.

"I grab it. I drop it. I send it," SPC Martagon said.

JBC-P will transform the way lower echelons communicate and navigate in theater by extending blue force tracking software to networked handheld devices. For the first time, dismounted leaders and those in vehicles and command posts will be able to view the precise locations of dismounted forces.

The Nett Warrior handhelds being fielded as part of CS 13 work with JCR and JBC-P to share position location information, text messages and other key information such as nearby terrain.

LTC Roman Cantu, commander of the 1st Battalion, 35th Armor Regiment within 2/1 AD, said connecting dismounted users into the friendly force tracking system through Nett Warrior and JCR/JBC-P "signifies the next step as a military to advanced situational awareness. We now see that position location information extended to our dismounts on the ground," he said.

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ACRONYM QuickScan

2/1 AD – 2nd Brigade, 1st Armored Division
CS – Capability Set
FBCB2/BFT - Force XXI Battle Command Brigade-and-Below/Blue Force Tracking
IED - Improvised Explosive Device
JBC-P - Joint Battle Command-Platform
JCR - Joint Capabilities Release
MRAP – Mine Resistant Ambush Protected Vehicle
MTS - Movement Tracking System
NIE - Network Integration Evaluation
PLI - position location information
PM JBC-P - Project Manager Joint Battle Command-Platform
SPAWAR - Space and Naval Warfare
TIGR - Tactical Ground Reporting